

USSN - 10/527,449

IN THE SEQUENCE LISTING

Please substitute the attached Sequence Listing, numbered as pages 1-7 for the Sequence Listing previously submitted.

REMARKS

1. Applicants hereby submit the following:
  - [XX] a paper copy of a "Sequence Listing", complying with §1.821(c), to be incorporated into the specification as directed above;
  - [ ] an amendment to the paper copy of the "Sequence Listing" submitted on , the amendment being in the form of substitute sheets;
  - [XX] the Sequence Listing in computer readable form, complying with §1.821(e) and §1.824, including, if an amendment to the paper copy is submitted, all previously submitted data with the amendment incorporated therein;
  - [ ] a substitute computer readable form to replace one found to be damaged or unreadable.
2. The description has been amended to comply with §1.821(d).
3. The undersigned attorney or agent hereby states as follows:
  - (a) this submission does not include new matter [§1.821(g)];
  - (b) the contents of the paper copy (as amended, if applicable) and the computer readable form of the Sequence Listing, are the same [§1.821(f) and §1.825(b)];
  - (c) if the paper copy has been amended, the amendment is supported by the specification and does not include new matter [§1.825(a)]; and
  - (d) if the computer readable form submitted herewith is a substitute for a form found upon receipt by the PTO to be damaged or unreadable, that the substitute data is identical to that originally filed [§1.825(d)].

4. The Notification of Defective Response mailed June 6, 2006 enclosed a raw sequence listing error report notifying applicants of the misuse of "n" in SEQ ID NOs:2 (two occurrences), 3 (two occurrences), 4 (two occurrences), 5, 10 (two occurrences), and 11 (two occurrences).

We have corrected this misuse. In connection with SEQ ID NOs:10 and 11, we note that the reference to "n is Amino-Modifier C6 dC" at location (1)..(1) was in error, not because n was misused (the term refers to a modified cytosine), but rather because that modified nucleotide doesn't in fact occur in those sequences, see P27, L17-18.

In reviewing the specification, we realized that the sequences now listed as SEQ ID NOs:12-17 had been overlooked, and we added them to the sequence listing.

5. Under U.S. rules, each sequence must be classified in <213> as an "Artificial Sequence", a sequence of "Unknown" origin, or a sequence originating in a particular organism, identified by its scientific name.

Neither the rules nor the MPEP clarify the nature of the relationship which must exist between a listed sequence and an organism for that organism to be identified as the origin of the sequence under <213>.

Hence, counsel may choose to identify a listed sequence as associated with a particular organism even though that sequence does not occur in nature by itself in that organism (it may be, e.g., an epitopic fragment of a naturally occurring protein, or a cDNA of a naturally occurring mRNA, or even a substitution mutant of a naturally occurring sequence). Hence, the identification of an organism in <213> should not be construed as an admission that the sequence *per se* occurs in nature in said organism.

Similarly, designation of a sequence as "artificial" should not be construed as a representation that the sequence has no association with any organism. For example, a primer or probe may be designated as "artificial" even though it is

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necessarily complementary to some target sequence, which may occur in nature. Or an "artificial" sequence may be a substitution mutant of a natural sequence, or a chimera of two or more natural sequences, or a cDNA (i.e., intron-free sequence) corresponding to an intron-containing gene, or otherwise a fragment of a natural sequence.

The Examiner should be able to judge the relationship of the enumerated sequences to natural sequences by giving full consideration to the specification, the art cited therein, any further art cited in an IDS, and the results of his or her sequence search against a database containing known natural sequences.

Respectfully submitted,

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